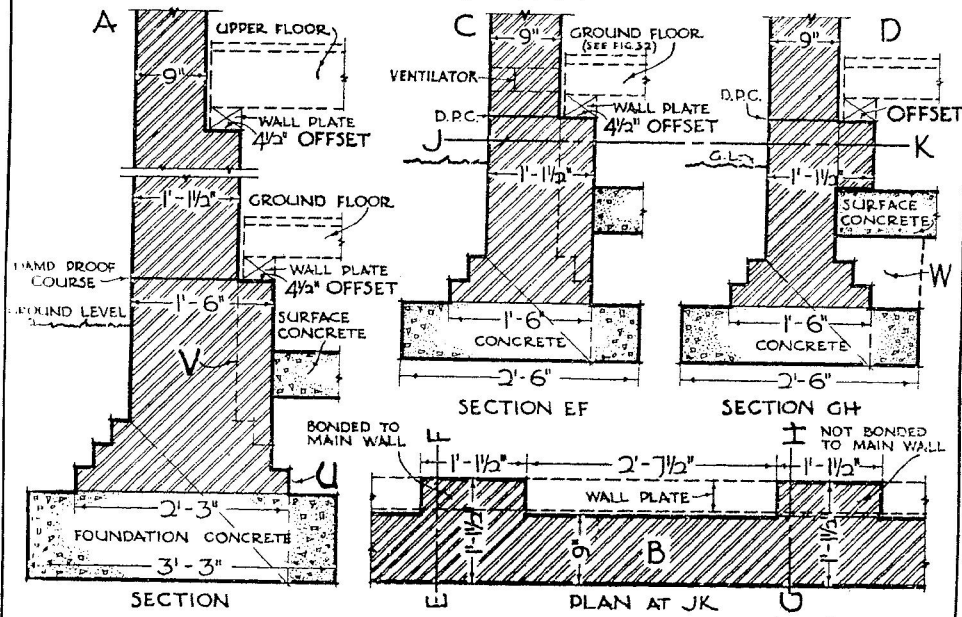


OFFSETS

OFFSETS—CORBELS



be concrete or asphalt. The requirements of most bye-laws are met if 6-in. thickness of cement concrete is provided, or, alternatively, 4-in. thick concrete laid on a bed of broken bricks, clinker, etc. The Model Bye-laws (1937) require that such concrete shall consist of not less than 112-lb. of cement to 3 1/2-cub. ft. of fine aggregate (sand) and 7-cub. ft. of coarse aggregate (broken brick, stone, etc.). The concrete should be well surfaced with the back of the shovel (known as "spade finished"). Surface concrete is shown in Figs. 10 and 32). Besides excluding dampness, surface concrete prevents the growth of vegetable matter and the admission of ground air.

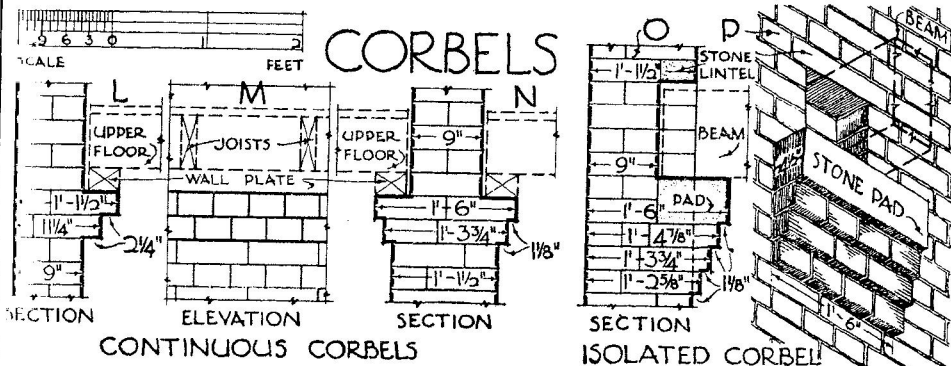
Dwarf 4 1/2-in. walls, known as *sleeper* and *fender* walls (see Fig. 32), are sometimes constructed on the surface concrete (see E, Fig. 10, and R, Fig. 32) or they may have the usual concrete foundation (see Q, Fig. 32). The site concrete adjoining the walls may be finished as shown at E, Fig. 10 (this is the best method if a separate sleeper wall as shown is to be supported), or at A, B, C, etc., Fig. 10.

Whilst most local authorities insist upon the provision of site concrete, others do not. Those responsible for the erection of buildings in districts where the use of site concrete is optional should be satisfied that the site is very dry before deciding to omit the concrete, for its omission has been a frequent cause of dry rot (see p. 58).

OFFSETS.—These are narrow horizontal surfaces which have been formed by reducing the thickness of walls. Fig. 10 shows 2 1/4-in. offsets. Wider offsets than these may be required to support floor joists, roof timbers, and the like. Walls of tall buildings are formed with offsets; thus a 50-ft. high wall may be 18-in. thick at the base, 9-in. thick at the top, with an intermediate thickness of 13 1/2-in., and the 4 1/2-in. wide ledges or shelves so formed are termed offsets. A broken vertical section through a portion of such a wall is shown at A, Fig. 11. The 4 1/2-in. offsets support horizontal wood members called wall plates which receive the ends of the floor joists (see p. 61). Only one 2 1/4-in. offset is necessary at U as the broken lines at v show that the wall conforms with E, Fig. 10.

The plan at B, Fig. 11, shows an alternative and cheaper method of supporting wall plates than at A. In the latter the increased thickness of the wall at the base to form the offset is continuous for the full length of the wall, whereas at B the wall plate rests upon small piers which are usually not more than 3-ft. apart. Two methods of forming these piers are shown at C and D, the former being the stronger as it is bonded into the main wall and the latter is not. The foundation for pier D is strengthened if the site concrete is formed to occupy the space at W.

CORBELS.—These are similar to offsets except that the ledges are formed by oversailing or projecting courses (see Fig. 11). They are constructed to support floor beams, lintels, etc. As a load carried by a corbel tends to overturn the wall, certain precautions are taken to ensure a stable structure; these are: (1) the maximum projection of the corbel must not exceed the thickness of the wall, (2) each corbel course must not project more than 2 1/4-in., (3) headers must be used as they are more adequately tailed into the wall than stretchers, and (4) only sound bricks and workmanship should be employed. The corbels



BUTTRESS CAPPINGS

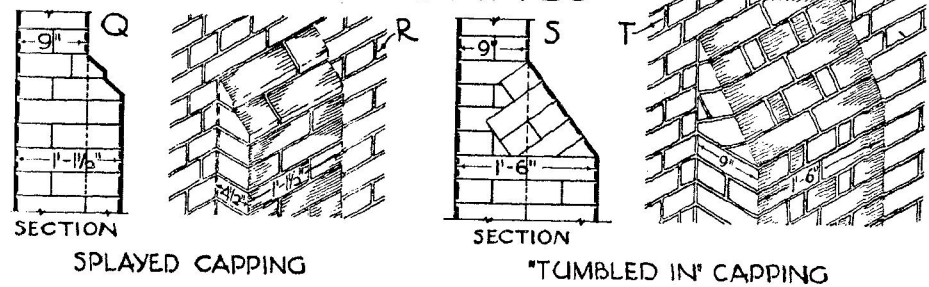


FIGURE 11